Military Leadership in Ozone Protection

The U.S. military has led the way in the technology revolution. Since 1990, the U.S. Department of Defense (DoD) has reduced its overall usage of first-generation ozone-depleting substances from more than 16.5 million pounds to less than half a million pounds in 2005, a 97 percent reduction. The Armed Services and defense agencies have been key players in discovering, testing, and implementing important alternatives to ozone-depleting substances. This work has served as a foundation and model for technology changes and advancement in the global marketplace.

Fire Suppression Alternatives

DoD spearheaded efforts to identify more ozone-friendly alternatives to halons used for fire suppression in aircraft engines. Five different DoD aircraft are using HFCs instead of halons, including three fighter aircraft and two helicopters. DoD also developed solid propellant inert gas generators, similar to the inflation devices used for automobile airbags, as alternatives for halons in aircraft dry bay fire suppression applications.

HFC Refrigerants on Vessels

In 1993, DoD began converting its ship and watercraft air-conditioning and refrigeration systems to those that use more ozone-friendly alternatives. More than 400 vessels now use alternative refrigerants such as HFCs. The switch is not only protecting the ozone layer but also reducing greenhouse gas emissions. When complete, the project will result in annual greenhouse gas emission reductions equivalent to the emissions from more than 5,000 automobiles per year.

PROTECTING SOLDIERS ON THE BATTLEFIELD

DoD was the first in the world to design an effective alternative to the halon systems used in ground combat vehicles to suppress explosions in crew compartments. The new halon-free systems have been used successfully in Iraq and Afghanistan, and all new ground combat vehicles are expected to be outfitted with this alternative system.